REMARKS

Claims 1-8 and 11-19 are pending in this application. By this Amendment, independent claim 1 is amended to add the features of prior claim 10, to more clearly define the through holes, and to recite that the surface of the template and the core formation surface of the cladding film directly contact each other. Support for these amendments can be found, for example, in prior claim 10, the paragraph bridging pages 31 and 32 of the specification as filed, and in Fig. 4. Independent claim 19 is amended similarly to claim 1. Claims 9-10 are cancelled and claim 11 is amended to change dependency. No new matter is added.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Vargot during the January 27, 2009 telephone interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

I. Claim For Priority

The Examiner is requested to acknowledge the claim for priority in the next Patent Office communication.

II. The Claims Comply With The Written Description Requirement

The Office Action rejects claims 1-19 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Office Action alleges that bringing the cladding film substrate into close contact with the template without using an adhesive is new matter. Applicants respectfully traverse the rejection.

By this Amendment, independent claims 1 and 19 are amended to recite "the surface of the template having the concave portion and the core formation surface of the cladding film substrate surface directly contact each other" (emphasis added).

The Office Action states that the feature "without using an adhesive", as recited in prior claim 19, is new matter. By this Amendment, the claims are amended to recite a positive feature, supported by the specification. First, support for this feature can be found at

page 28, lines 2-8; page 29, lines 10-11; and in Figs. 1D and 2 of the specification as filed. These sections describe, *inter alia*, that the cladding film substrate and template are brought together. Second, the sections cited above state, for example, "In this combination, adhesiveness between the template and the cladding film substrate is quite good ..." (emphasis added, page 28, lines 2-5 of the specification as filed). Third, in the last full paragraph of page 40 of the specification as filed, the specification states "the template and the ARTON film are brought into close contact through treated surfaces" (emphasis added).

For the foregoing reasons, Applicants request withdrawal of the rejection.

III. The Claims Are Patentable Over The Applied References

The Office Action rejects claims 1-19 under 35 U.S.C. §103(a) over U.S. Patent No. 6,355,198 to Kim et al. (Kim) in view of Japanese Patent Publication No. 2002-365429 to Saiki et al. (Saiki). Applicants respectfully traverse the rejection.

Regarding independent claims 1 and 19, the applied references fail to disclose or render obvious all the claimed features because (A) it would not have been obvious to combine the references as proposed, and (B), even if the proposed combination would have been made, the proposed combination fails to result in (1) "preparing a template ... that is provided with through holes which extend at respective ends of the concave portion from the concave portion through a body of the template to a surface of the template opposite to a surface having the concave portion thereon and which are, respectively, a through hole having a function of a liquid reservoir and another through hole for performing vacuum suction" (emphasis added); and (2) "bringing the cladding film substrate into close contact with the template such that the surface of the template having the concave portion and the core formation surface of the cladding film substrate surface directly contact each other" (emphasis added).

Saiki is directed to joining a polarizer and a transparent protective film by using an adhesive. Kim is directed to a method of forming waveguides by capillary action. There is no reason, in the references taken as a whole, to make the proposed combination. The Office Action appears to rely on Saiki to disclose that ozone treatment of a film renders the film more adhesive to subsequently applied layers. However, this is a generalization that is not correct because the effects of ozone treatment depend on the materials used both (a) in the film that is treated by the ozone treatment and (b) in the subsequently applied layer. Because Saiki merely discloses ozone treatment of triacetyl cellulose film to heighten the hydrophilicity thereof to improve adhesion to a water-based adhesive and fails to disclose the effects of ozone treatment on other materials, the Office Action's presumption that Saiki's treatment could be added to Kim is unfounded, in view of the references taken as a whole. Further, Kim, as acknowledged by the Office Action, does not use an adhesive. Thus, one of ordinary skill would have had not reason to modify Kim by Saiki.

Moreover, Saiki is directed to a polarizing plate in which a polarizer and a transparent protective film are permanently adhered rather than temporarily adhered. Saiki thus indicates the necessity for very strong adhesion. In contrast, a cladding film substrate and a template are temporarily attached to each other and later separated from each other in a later stage of the production of a waveguide. If the adhesion is very strong between a cladding film substrate and a template, the cladding film or the core may be damaged in the process of the separation, and optical loss would increase to a level that is not practical for use as a polymer optical waveguide, in violation of MPEP §2143.01(V). Therefore, a person skilled in the art would not have been motivated to apply an ozone treatment in production of a waveguide.

Further, based on the disclosure of Saiki, Saiki leads away from the use an ozone treatment in the production of a waveguide. In other words, regarding independent claims 1 and 19, the presently claimed methods produce, owing to the selection of the materials

described in the amended claims, results that are unexpected from the modification of Kim by Saiki.

Still further, Saiki is directed to increasing the hydrophilic nature of the surface of a transparent protective film 3, preferably made of triacetyl cellulose, in order to apply a glue line 2 (adhesive) in order to join the transparent protective film 3 with a polarizer 1 to produce a polarizer plate. In contrast, Kim is directed to forming structures 38 by filling an applicator 20 with a fluid precursor 36 which is then applied to a substrate 30. Thus, Kim and Saiki address divergent technologies and lack any reason to make the proposed combination proposed by the Office Action.

Even if the proposed combination is made, all the claimed features do not result. Regarding features (1) quoted above, the Office Action alleges that one end of indentations 24 is an "inlet" and the other end is an "outlet", but does not otherwise indicate where the template has "through holes". Thus, the rejection is deficient and is improper. Further, Kim fails to disclose any through holes that connect to either end of channels 32 and further indicates that fluid precursor 36 is added at the end of channels 32, not made available through any through hole (Fig. 1).

Regarding feature (2) quoted above, the Office Action merely states that Kim does not have an adhesive. As previously stated in the record, Saiki discloses use of ultraviolet radiation to increase the hydrophilic nature of a surface prior to applying an adhesive. However, neither Kim nor Saiki discloses that Kim has a problem with hydrophilicity. Kim leads away from this conclusion because Kim discloses that hydrophilic materials can be used for substrate 30 (col. 21, lines 9-15). Thus, one of ordinary skill in the art would understand, from the applied references taken as a whole, that no benefit would be derived from increasing the hydrophilicity of the surface of either applicator 20 or substrate 30.

Still further, because Saiki discloses use of ultraviolet radiation to improve the hydrophilic nature of a surface so that an adhesive can be applied, modifying Kim by Saiki would lead one of ordinary skill to include Saiki's adhesive. Thus, even if made, the proposed combination does not result in all the claimed features.

For the foregoing reasons, Applicants request withdraw of the rejection.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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